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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,817	12/13/2001	Ilan Levy	01/22952	6282
7590 Martin D. Moynihan PRTSI, Inc. P.O. Box 16446 Arlington, VA 22215			EXAMINER MAIER, LEIGH C	
			ART UNIT 1623	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/21/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/009,817	LEVY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Leigh C. Maier	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,5,11-49 and 105-125 is/are pending in the application.
- 4a) Of the above claim(s) 13-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5,11,12 and 105-125 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 7, 2006 has been entered.

LCM . 5, <sup>11</sup>12-49 and 105-125 are pending. Claims 13-49 are withdrawn from further consideration as being drawn to nonelected inventions and currently non-elected species.

Any objection or rejection not expressly repeated has been withdrawn. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Claim Objections*

Claims 11, 111, 117 and 119 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form.

Regarding claim 11, claim 1 has been amended to require covalent coupling, making claim 11 nonlimiting. The same objection applies to claim 119.

Regarding claim 111, claim 105 requires the presence of at least two PBDs and claim 107 requires that they are attached via a linker unit. Therefore, the linker unit must comprise “one or more” PBDs. The same object applies to claim 117 (but depending from claims 113 and 1).

***Claim Rejections - 35 USC § 112***

Claims 1, 5, 11, 12 and 105-125 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are drawn to a method comprising contacting a polysaccharide containing material with a product “wherein said polysaccharide binding domain containing composition has less catalytic polysaccharidase activity than that of a crude extract from cells expressing polysaccharidase.” However, this limitation regarding the catalytic activity of the polysaccharide binding domain containing composition is based on an undefined standard—the activity of a “crude extract” of any polysaccharidase prepared in some undefined manner. Therefore, one of ordinary skill would not be apprised of the metes and bounds of the claims regarding the maximum allowable polysaccharidase activity of the composition used in the process.

***Claim Rejections - 35 USC § 102***

Claims 1, 11, 12, 105-108, 111-114, 117-121 and 123-125 are rejected under 35 U.S.C. 102(b) as being anticipated by Linder et al (JBC, 1996).

Linder discloses contacting polysaccharide material with a double cellulose binding domain (CBD). See entire reference, particularly the abstract and Figure 3.

***Claim Rejections - 35 USC § 103***

Claims 1, 5, 11, 12, 105-109, 111, 113-115, 117, 118 and 120-125 are rejected under 35 U.S.C. 103(a) as being unpatentable over Von der Oster et al (WO 97/28256).

Von der Oster teaches the desizing of textiles with a product comprising at least one CBD conjugated to a non-cellulolytic enzyme. The reference expressly suggests the use of more than one CBD in the product. See abstract; page 7; and page 8, lines 10-18. The reference further teaches the glycosylation of the linker residues in the product for the prevention of proteolytic degradation. See page 8, lines 30-31.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to prepare the described CBD fusion protein for the treatment of cellulose-containing fabrics. The reference is drawn to desizing of the fabric, but in carrying out the treatment as described, the recited surface properties would also be modified. It would be further obvious to one of ordinary skill to prepare the described product having multiple CBDs because it such preparation was expressly suggested by the reference. It would be further obvious to prepare such a product having a polysaccharide in the linker because the reference teaches glycosylation of the linker in order to prevent proteolytic cleavage. In the absence of unexpected results, one of ordinary skill would reasonably expect success in preparing these products as suggested and using them to treat cellulose-containing fabric.

Claims 1, 5, 11, 12, 105-108, 111-115 and 117-125 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilkes et al (US 5,821,358) in view of Linder et al (JBC, 1996).

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Gilkes teaches the modification of cellulose fibers, including cotton and paper, with isolated CBDs. See col 8 lines 40-59 and reference claim 1-9. The reference teaches that the catalytic activity of the isolated CBD be less than that of crude extracts from cells expressing the polysaccharidase and that the catalytic activity will reflect a stoichiometry of less than 1 functional catalytic domain per 1000 functional binding domains. See col 5, lines 29-36. The reference teaches that the use of a tighter binding CBD is preferred. See col 4, lines 15-25. The reference does not teach the use of a product comprising more than one CBD.

Linder teaches as set forth above. The reference further teaches that the two linked CBDs act synergistically, exhibiting a very high binding affinity. See entire reference.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of Gilkes by using the double CBD disclosed by Linder for the modification of cellulose fibers with a reasonable expectation of success. One of ordinary skill would be motivated to make this modification because Gilkes teaches the use of isolated CBDs generally and ones with high binding affinity particularly.

***Examiner's hours, phone & fax numbers***

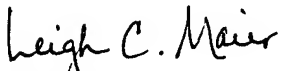
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Maier whose telephone number is (571) 272-0656. The examiner can normally be reached on Monday, Wednesday and Thursday 7:00 to 3:30 (ET).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Anna Jiang (571) 272-0627, may be contacted. The fax number for Group 1600, Art Unit 1623 is (571) 273-8300.

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov> Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.



Leigh C. Maier  
Primary Examiner  
March 16, 2007